

REMARKS

The Office Action dated February 18, 2009, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

By this Response, claims 1, 9, 12-13, 16, 97-99, and 106-110 have been amended to more particularly point out and distinctly claim the subject matter of the present invention. No new matter has been added. Support for the above amendments is provided in the Specification, at least, on page 4, in the last paragraph, and illustrated, at least, in Figure 2a. Accordingly, claims 1, 4-17, 19, 21-23, 77, 79-92, 96-100, 102-103, 105-111, and 113-116 are currently pending in the application, of which claims 1, 9, 12-13, 16, 97-99, and 106-110 are independent claims.

In view of the above amendments and the following remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections to the claims for the reasons discussed below.

Claim Rejections under 35 U.S.C. §112, First Paragraph

The Office Action rejected claims 1, 9, 12-13, 16, 97-99, and 106-110 under 35 U.S.C. §112, 1st paragraph, as allegedly failing to comply with the written description requirement. The Office Action alleged that the claims contain subject matter, which was not described in the Specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the

claimed invention. Specifically, the Office Action alleged that the expression “completely release” is not supported in the Specification.

Accordingly, Applicants have amended claims 1, 9, 12-13, 16, 97-99, and 106-110 to more particularly point out and distinctly claim the subject matter of the invention, rendering the rejections of claims 1, 9, 12-13, 16, 97-99, and 106-110 under 35 U.S.C. §112, 1st paragraph, moot.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 1, 9, 12-13, 16, 97-99, and 106-110 under 35 U.S.C. §112, 1st paragraph, and respectfully submit that claims, 1, 9, 12-13, 16, 97-99, and 106-110, and the claims that depend therefrom, are now in condition for allowance.

Claim Rejections under 35 U.S.C. §102(b)

The Office Action rejected claims 1, 9, 12-13, 19, 77, 84, 87-88, 97-99, 102-103, 105-108, 110-111, and 113-116 under 35 U.S.C. §102(b) as allegedly anticipated by Purchase, *et al.* (U.S. Patent No. 5,432,838) (“Purchase”). Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in Purchase.

Claim 1, upon which claims 4-8, 19, 21-23, 77, 79-83, 96-97, 102, and 114 depend, recites an apparatus in a cellular communications network. The apparatus includes a monitor configured to monitor at least one parameter related to a connection between a mobile station and a support node. The support node is within a core network of the cellular communications network. The at least one parameter includes user activity. The apparatus

further includes a determining unit configured to determine whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter monitored by the monitor. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released when there is user inactivity for a predetermined period of time. The apparatus is external to the core network of the cellular communications network.

Claim 9, upon which claims 10-11, 84-86, and 115 depend, recites an apparatus in a cellular communications network. The apparatus includes a monitor configured to monitor at least one parameter related to a connection between a mobile station and a support node, and a determining unit configured to determine whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter monitored by the monitor. The support node is within a core network of the cellular communications network. The at least one parameter includes an elapsed time since the last use of the connection. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released when the connection has not been used for a predetermined time. The apparatus is external to the core network of the cellular communications network.

Claim 12, upon which claims 87 and 116 depend, recites an apparatus in a cellular communications network. The apparatus includes a monitor configured to monitor at

least one parameter related to a connection between a mobile station and a support node, and a determining unit configured to determine whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter monitored by the monitor. The support node is within a core network of the cellular communications network. The at least one parameter includes a state of the mobile station. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released based on the state of the mobile station. The apparatus is external to the core network of the cellular communications network.

Claim 13, upon which claims 14-15 depend, recites an apparatus in a cellular communications network. The apparatus includes a monitor configured to monitor at least one parameter related to a connection between a mobile station and a support node. The support node is within a core network of the cellular communications network. The at least one parameter includes a movement of the mobile station. The apparatus further includes a determining unit configured to determine whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter monitored by the monitor. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released based on the movement of the mobile station. The apparatus is external to the core network of the cellular communications network.

Claim 97 recites an apparatus. The apparatus includes a monitor configured to monitor at least one parameter related to a connection between a mobile station and a support node. The support node is within a core network of a cellular communications network. The at least one parameter comprising at least one of a state of the mobile station, a movement of the mobile station, or an amount of communications between the mobile station and a radio network controller. The apparatus further includes a determining unit configured to determine whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter monitored by the monitor. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released based on the at least one parameter. The apparatus is external to the core network of the cellular communications network.

Claim 98, upon which claim 100 depends, recites an apparatus. The apparatus includes a processor configured to monitor at least one parameter of a connection established between a mobile station and a support node and to determine whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter. The support node is within a core network of a cellular communications network. The apparatus is implemented in a cellular communication network. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to

be completely released based on the at least one parameter. The apparatus is external to the core network of the cellular communications network.

Claim 99, upon which claims 103 and 105 depend, recites a method. The method includes establishing a connection between a mobile station and a support node in a cellular communications network through a radio network controller, and monitoring, at the radio network controller, at least one parameter related to the connection between the mobile station and the support node. The method further includes determining, at the radio network controller, whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter, and releasing completely, by the radio network controller, the connection between the support node and the mobile station based on the at least one parameter. The support node is within a core network of a cellular communications network. The radio network controller is external to the core network of the cellular communications network.

Claim 106 recites an apparatus in a cellular communications network. The apparatus includes monitoring means for monitoring at least one parameter related to a connection between a mobile station and a support node, and determining means for determining whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter monitored by the monitoring means. The support node is within a core network of a cellular communications network. The at least one parameter includes an elapsed time since the last use of the connection. The apparatus is configured to cause the connection between the mobile station and the

support node to be established, and further configured to cause the connection to be completely released when the connection has not been used for a predetermined time. The apparatus is external to the core network of the cellular communications network.

Claim 107 recites an apparatus in a cellular communications network. The apparatus includes monitoring means for monitoring at least one parameter related to a connection between a mobile station and an support node, and determining means for determining whether the connection between the support node sand the mobile station is to be released based solely on the at least one parameter monitored by the monitoring means. The support node is within a core network of a cellular communications network. The at least one parameter includes a state of the mobile station. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released based on the state of the mobile station. The apparatus is external to the core network of the cellular communications network.

Claim 108 recites an apparatus in a cellular communications network. The apparatus includes monitoring means for monitoring at least one parameter related to a connection between a mobile station and an support node. The support node is within a core network of the cellular communications network. The at least one parameter includes a movement of the mobile station. The apparatus further includes determining means for determining whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter monitored by the monitoring

means. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be released based on the movement of the mobile station. The apparatus is external to the core network of the cellular communications network.

Claim 110, upon which claims 111 and 113 depend, recites a computer readable storage medium encoded with instructions that, if executed by a computer, perform a process. The process includes establishing a connection between a mobile station and an support node in a communication network through a radio network controller, and monitoring, at the radio network controller, at least one parameter related to the connection between the mobile station and the support node. The process further includes determining, at the radio network controller, whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter, and releasing completely, by the radio network controller, the connection between the support node and the mobile station based on the at least one parameter. The support node is within a core network of the cellular communications network. The radio network controller is external to the core network of the cellular communications network.

As will be discussed below, Purchase fails to disclose or suggest each and every element recited in claims 1, 9, 12-13, 19, 77, 84, 87-88, 97-99, 102-103, 105-108, 110-111, and 113-116, and therefore fails to provide the features discussed above.

Purchase is directed to a communication system, particularly for use in a mine. The communication system of Purchase includes distributed antennas that allow mobile

radios to connection to the communication system (*See* Purchase, col. 3, line 11, to col. 5, line 68).

The Examiner cited Purchase at column 13, lines 43-58, to allege that Purchase describes each and every element recited in claim 1. A review of these passages in relation to the entirety of Purchase demonstrates that Purchase fails to describe or suggest each and every element recited in claim 1.

Applicants respectfully submit that Purchase fails to disclose or suggest each and every element recited in claim 1. In particular, Purchase fails to disclose or suggest, at least, “a cellular communications network.” Contrary to the Office Action’s allegations, the communication system described in Purchase is not “a cellular communications network,” as recited in claim 1 (emphasis added).

One of ordinary skill in the relevant art would have understood that, in a cellular communications network, different frequencies or codes are used in adjacent areas or cells, allowing coverage of an unlimited area. Whereas, Purchase describes a system that is contained within a closed environment, whereby all of the distributed antennas operate at the same frequency. For example, Purchase, at column 5, lines 61-68, describes that an important concept of Purchase is the use of a wide band spectrum. One of ordinary skill in the relevant art would have understood that Purchase’s use of a wide band spectrum limits the communication system of Purchase to use in environments that prevent significant RF leakage. Accordingly, Purchase fails to describe that the communication

system is “a cellular communications network” (emphasis added), or suggests that it would have been advantageous to modify Purchase to include cells.

In fact, modifying Purchase to include a cellular network would greatly complicate the communication system of Purchase. The communication system described in Purchase relies on the use of wide band signals to allow the provision of sufficient bandwidth at a low signal power required for use in a mine environment. The division of the available spectrum by codes or frequencies in order to provide cells would reduce the available bandwidth available within one particular cell at a given signal level, and therefore may require greater transmission power to provide the required bandwidth, or the provision of a very large number of cell transmitters.

Applicants respectfully submit that the Office Action failed to define what element in Purchase anticipates the “support node” recited in claim 1. Furthermore, the Office Action cited the radio controller 72 of Purchase to allege that Purchase describes the “apparatus” of claim 1. However, the radio controller 72 of Purchase is described as a supervisor or master controller and is *a part of the core network*. Therefore, the radio controller 72 cannot be “external to the core network,” as recited in claim 1 (emphasis added).

The configuration described in Purchase, in which calls are controlled from core network elements, is similar to the prior art systems described in the background section of the present application. As described on page 2 of Applicants’ specification, prior art systems have been proposed in which calls are controlled from the support nodes in a

core network. However, as described for certain embodiments of the invention in Applicants' specification, the problem arises in that the core network does not have all the information regarding the context of the connections.

Claim 1 recites an apparatus that is external to the core network and is configured to provide a connection between a mobile station and a support node. The support node monitors the connection and can completely release the connection when user inactivity is detected.

For the reasons discussed above, Purchase fails to describe or suggest each and every element recited in claim 1.

Claims 9, 12-13, 97-99, 106-108, and 110 each have their own claim scope, but also contain limitations similar to those recited in claim 1. Accordingly, for at least the reasons discussed above for claim 1, Purchase also fails to describe or suggest each and every element recited in claims 9, 12-13, 97-99, 106-108, and 110.

Claims 19, 77, 102, and 114 depend from claim 1. Claim 84 and 115 depend from claim 9. Claims 87 and 116 depend from claim 12. Claim 88 depends from claim 13. Claims 103 and 105 depend from claim 99. Claims 111 and 113 depend from claim 110. Accordingly, claims 19, 77, 84, 87-88, 102-103, 105, 111, and 113-116 should be allowable for at least their dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 1, 9, 12-13, 19, 77, 84, 87-88, 97-99, 102-103, 105-108, 110-111, and 113-116 under 35

U.S.C. §102(b) and respectfully submit that claims 1, 9, 12-13, 97-99, 106-108, and 110, and the claims that depend therefrom, are now in condition for allowance.

Claim Rejections under 35 U.S.C. §103(a)

Claims 4-8, 10-11, 23, 79-83, and 85-86

The Office Action rejected claims 4-8, 10-11, 23, 79-83, and 85-86 under 35 U.S.C. §103(a) as being allegedly unpatentable over Purchase in view of Larsson, *et al.* (U.S. Patent No. 6,643,262) (“Larsson”). Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in the combination of Purchase and Larsson.

Purchase was discussed above. Larsson is directed to a system and method for dynamic sharing of connection resources. In particular, Larsson describes a system and method for the efficient utilization of core telecommunication resources, including both switching and transport resources, during a datacom session over a connection-oriented telecommunication system (*See* Larsson, col. 4, line 16, to page 5, line 13).

As previously discussed above, Purchase fails to describe or suggest each and every element recited in claims 1 and 9. Larsson fails to cure the deficiencies of Purchase. In particular, Larsson fails to describe or suggest, at least, “an apparatus in a cellular communications network” and “wherein the apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released when there is user inactivity for a predetermined period of time, and wherein the apparatus is external to the core

network of the cellular communications network,” as recited in claim 1 (emphasis added), and similarly recited in claim 9. Accordingly, assuming *arguendo* that Purchase could be combined with Larsson, the combination of Purchase and Larsson fails to describe or suggest each and every element recited in claims 1 and 9.

Claims 4-8, 23, and 79-83 depend from claim 1. Claims 10-11 and 85-86 depend from claim 9. Accordingly, claims 4-8, 10-11, 23, 79-83, and 85-86 should be allowable for at least their dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 4-8, 10-11, 23, 79-83, and 85-86 under 35 U.S.C. §103(a) and respectfully submit that claims 1 and 9, and the claims that depend therefrom, are now in condition for allowance.

Claims 14-17, 21-22, 89-92, 96, 100, and 109

The Office Action rejected claims 14-17, 21-22, 89-92, 96, 100, and 109 under 35 U.S.C. §103(a) as being allegedly unpatentable over Purchase in view of Stephenson, *et al.* (U.S. Patent No. 6,119,000) (“Stephenson”). Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in the combination of Purchase and Stephenson.

Claim 109 recites an apparatus in a cellular communications network. The apparatus includes monitoring means for monitoring at least one parameter related to a connection between a mobile station and an support node. The support node is within a

core network of the cellular communications network. The at least one parameter comprising a location of the mobile station. The apparatus further includes determining means for determining whether the connection between the support node and the mobile station is to be released based solely on the at least one parameter monitored by the monitoring means. The apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released based on the location of the mobile station. The apparatus is external to the core network of the cellular communications network.

Purchase was discussed above. Stephenson is directed to a method and apparatus for tracking identity-code changes in a communication system (Stephenson, col. 1, line 66, to page 4, line 12).

As previously discussed above, Purchase fails to describe or suggest each and every element recited in claims 1, 13, 16, 98, and 109. Stephenson fails to cure the deficiencies of Purchase. In particular, Stephenson fails to describe or suggest, at least, “an apparatus in a cellular communications network” and “wherein the apparatus is configured to cause the connection between the mobile station and the support node to be established, and further configured to cause the connection to be completely released when there is user inactivity for a predetermined period of time, and wherein the apparatus is external to the core network of the cellular communications network,” as recited in claim 1 (emphasis added), and similarly recited in claims 13, 16, and 98.

Claim 109 has its own claim scope, but also contains limitations similar to those recited in claim 1. Accordingly, for at least the reasons discussed above for claim 1, the combination of Purchase and Stephenson also fails to describe or suggest each and every element recited in claim 109. Accordingly, assuming *arguendo* that Purchase could be combined with Stephenson, the combination of Purchase and Stephenson fails to describe or suggest each and every element recited in claims 1, 13, 16, 98, and 109.

Claims 21-22 and 96 depend from claim 1. Claims 14-15 and 89-90 depend from claim 13. Claims 17 and 91-92 depend from claim 16. Claim 100 depends from claim 98. Accordingly, claims 14-15, 17, 21-22, 89-92, 96, and 100 should be allowable for at least their dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 14-17, 21-22, 89-92, 96, 100, and 109 under 35 U.S.C. §103(a) and respectfully submit that claims 1, 13, 16, 98, and 109, and the claims that depend therefrom, are now in condition for allowance.

CONCLUSION

In conclusion, Applicants respectfully submit that Purchase, Larsson and Stephenson, whether taken individually or in combination, fail to disclose or suggest each and every element recited in claims 1, 4-17, 19, 21-23, 77, 79-92, 96-100, 102-103, 105-111, and 113-116. The distinctions previously noted are more than sufficient to render

the claimed invention unanticipated and non-obvious. It is therefore respectfully requested that all of claims 1, 4-17, 19, 21-23, 77, 79-92, 96-100, 102-103, 105-111, and 113-116 be allowed, and this present application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time
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